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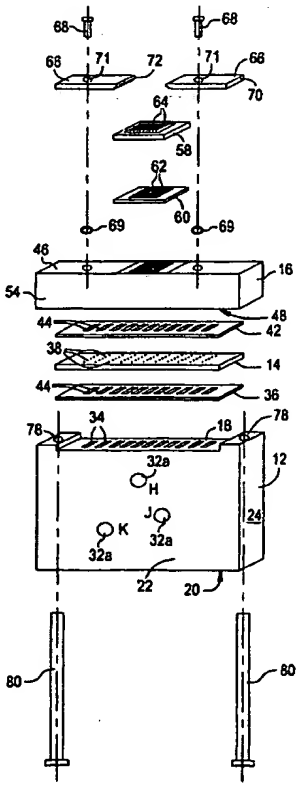
(54) Title: BURNER MANIFOLD APPARATUS FOR USE IN A CHEMICAL VAPOR DEPOSITION PROCESS

(57) Abstract

A burner manifold apparatus (10) for delivering reactants to a combustion site of a chemical vapor deposition process includes fluid inlets (32a, 32b), fluid outlets (49), and a plurality of fluid passages (50) extending therebetween. The fluid passages (50) converge toward each other from the fluid inlets to the fluid outlets. One embodiment includes a manifold base (12), a pressure plate (14), and a manifold burner mount (16) for mounting thereto a micromachined burner (58). The fluid passages (50) internal to the manifold base are configured to distribute symmetrically the fluid to the manifold burner mount. The fluid is then channeled through fluid passages in the manifold burner mount. The fluid passages converge, yet remain fluidly isolated from each other, and the fluid passages create a linear array for producing linear streams of fluid. Alternatively, the burner manifold apparatus may include a plurality of manifold elements in a stacked arrangement. In this alternative embodiment, the manifold elements are configured to produce a linear array of fluid passages at the top of the stack, increasing the number of fluid passages at each level of the stack closer to the top. As yet a further alternative, the burner manifold may be produced by extruding a particulate composite through a die to produce a manifold having fluid passages therein. This extruded manifold generally has a tapered section to which a burner may be mounted.



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